

CONTAINER WITH REINFORCED AND COLLAPSIBLE PORTIONS

Field of the Invention

5 This invention relates to the field of portable insulated containers.

Background of the Invention

10 Soft sided insulated containers have become popular for carrying either articles that may best be served cool, such as beverages or salads, or warm, such as appetizers, hot dogs, and so on. Such containers are frequently used to carry liquids, whether hot liquids, such as soup containers, coffee or tea, or cold liquids such as beer, soft drinks, or other carbonated beverages, juices and milk. The containers are typically made in a generally cube-like or rectangular parallelepiped shape, whether of sides of equal length or not, having a base, four upstanding walls, and a top. The top is generally a lid which opens to permit articles to be placed in, or retrieved from, the container. Most typically, collapsible, soft sided insulated coolers are used for objects that may tend to be less prone to bruising. For example, a cooler 15 may be filled with ice and canned or bottled beverages. The cans and bottles may be relatively indifferent to their handling conditions – they are not troubled by being immersed in water, and, 20 within reason, they can be bumped about without coming to much harm.

25 This may not necessarily be true of other objects that one may wish to carry in a cooler, as for a picnic, for example. If one has egg sandwiches, or cucumber sandwiches, or items of a similar nature, it is desirable that the sandwiches be kept cool before being eaten. If one has warmed canapés or hors d'oeuvres, it may be desirable that those appetizers be kept warm until served. However, such items as sandwiches or pastries tend not to be overly amenable to 30 immersion in water, and, even if placed in a supposedly waterproof bag or plastic container may tend to become damp or clammy. Further, sandwiches or appetizers tend not to be particularly resilient, and once squashed may tend not to return to their former state.

35 In that light, then, it may be desirable to have a soft sided insulated container that has a first compartment that is reinforced in a manner to have a relatively rigid form, and therefore to provide a measure of protection for the cucumber sandwiches, and so on. It may still be advantageous also to have a collapsible cooler compartment for carrying hot or cold beverages, or other items.

Further still, even if provided with a soft sided insulated container having a rigid reinforcement, such that the container may be, generally speaking, non-collapsible, it may be helpful to have an auxiliary insulated container, or insulated container portion, such that if there is an extra amount to be carried over what might normally be desired, then that is provided for by having a collapsible compartment that can be moved to a collapsed position, and retained in such position, when not required, and moved to an expanded position when required. Alternatively, it may be desirable to have one insulated container that can be used for keeping objects hot or warm, and another insulated compartment that can be used for keeping objects cool or cold, or further still, one insulated container for segregating relatively dry objects from another insulated container in which one may keep relatively wet objects.

While it may be cumbersome to have two separate containers for this purpose, the problem may be addressed, as in an aspect of the present invention, at least in part, by having a collapsible container and a container with rigid reinforcement mounted together. Further still, it may be advantageous to have the two container portions share a common container profile, and a common insulated wall.

While items placed within the rigid insert may be provided with a measure of protection from external forces, they may be adversely affected by other items located within the rigid insert. For example, more durable items such as bottles and cans, may come into contact with less durable items such as sandwiches and buns when the items are jostled during transport of the container. This may cause the less durable items to become damaged. In addition to providing a relatively rigid receptacle, it may also be advantageous to provide an internal, multi-positional divider in the container to further segregate objects from each other.

The contents of items such as soft drink or beer bottles, may also be affected. As the container is moved, any item contained therein may move, and contact a side of the rigid receptacle, or contact other items located within the container. This movement may lead to damage or breakage of the items themselves. Movement may also cause the contents of durable items such as soft drink and beer bottles to become agitated, causing the contents of such items to be expressed in an undesirable spray when opened.

Summary of the Invention

In an aspect of the invention there is a soft sided insulated container assembly having a first portion and a second portion. The first portion has a first enclosed space defined therewithin. The first portion has a soft-sided insulated wall structure and a reinforcement member mounted therewithin to maintain the first portion in a condition to receive objects in the first enclosed space. The second portion is movable between a first, folded position and a second, unfolded position, and, in the second, unfolded position, the second portion of the insulated container assembly has a second enclosed space defined therewithin in which to receive objects. The second portion has at least one releasable securement for maintaining the second portion in the first position. The container assembly has a first closure member operable to control access to the first enclosed space, and a second closure member operable to control access to the second enclosed space. The first and second portions are insulated one from another to permit different environmental conditions to be maintained in the first and second enclosed spaces respectively.

In another feature of that aspect of the invention, the container assembly has a third portion mounted thereto defining a third enclosed space. In another feature, an entertainment device is mounted in the third portion. In still another feature, the assembly has an access port for accommodating an electrical connection to the entertainment device.

In yet another feature, the second portion has a liner mounted therewithin. In still yet another feature, the liner is a waterproof liner. In a further feature, the liner is folded from a monolithic sheet of plastic stock. In yet a further feature, the liner is free of heat welded seams. In still a further feature, the liner is made of clear plastic, and the second portion has reflective inner walls visible through the liner.

In still yet a further feature, the reinforcement member is a receptacle. In still another feature, the reinforcement member is a waterproof receptacle operable to contain liquids. In yet another feature, the reinforcement member is a receptacle for accommodating objects placed in the first enclosed space, and has a mating divider. The divider is locatable to partition the first enclosed space into upper and lower regions. In still yet another feature, the reinforcement member is a receptacle for accommodating objects placed in the first enclosed space, and has a mating divider. The divider is locatable to partition the first enclosed space into side by side regions. In still another feature, the reinforcement member is a receptacle for accommodating objects placed in the first enclosed space, and has a folding divider for

sub-dividing the first enclosed space. In still a further feature, the reinforcement member is a receptacle for accommodating objects placed in the first enclosed space, and the receptacle has a horizontally oriented shoulder defined therein, and a divider. The divider is locatable on the shoulder.

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In another aspect of the invention there is a soft-sided insulated container assembly having a first insulated portion and a second insulated portion. The first insulated portion and the second insulated portion share a common insulated wall. The first and second insulated portions are maintainable at different environmental conditions from each other, and different environmental conditions from ambient. The first insulated portion has a non-collapsible receptacle mounted therein. The receptacle is capable of holding liquids. The receptacle provides stiffening to the first insulated portion. The second insulated portion is movable between a collapsed position and an expanded position. The second insulated portion is securable in the collapsed position.

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In a further additional feature of that aspect of the invention the receptacle is a molded plastic bucket. In another feature, the container assembly also includes a multi-positionable divider mountable within the receptacle. In another feature, the soft-sided insulated container assembly includes a third, un-insulated portion mounted thereto. The third, uninsulated, portion has a third closure member operable to control access thereto, and is maintainable at an environmental condition approximating external ambient. In still another feature the first and second portions each have the general shape of a six-sided box, and the first and second portions are mounted back-to-back.

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Brief Description of the Drawings

These aspects and other features of the invention can be understood with the aid of the following illustrations of a number of exemplary, and non-limiting, embodiments of the principles of the invention in which:

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Figure 1a shows an isometric view, from the top, right front corner, of an example of an embodiment of a container assembly according to the present invention in which a portion of the container assembly is in a collapsed position;
Figure 1b shows an isometric view of the container assembly of Figure 1a in a fully expanded position;

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- Figure 1c shows an isometric view of the container assembly of Figure 1a, from above and diagonally opposite to Figure 1a;
- Figure 1d shows an isometric view of the container assembly of Figure 1b, from above and diagonally opposite to Figure 1b;
- 5 Figure 2 shows a front view of the container assembly of Figure 1a;
- Figure 3a shows a left hand side view of the container assembly of Figure 1a;
- Figure 3b shows a left hand side view of the container assembly of Figure 1b;
- Figure 4a shows a right hand side view of the container assembly of Figure 1a;
- Figure 4b shows a right hand side view of the container assembly of Figure 1b;
- 10 Figure 5a shows a top, or plan, view of the container assembly of Figure 1a;
- Figure 5b shows a top, or plan, view of the container assembly of Figure 1b;
- Figure 6a shows a bottom view of the container assembly of Figure 1a;
- Figure 6b shows a bottom view of the container assembly of Figure 1b;
- Figure 7a shows a rear view of the container assembly of Figure 1a;
- 15 Figure 7b shows a rear view of the container assembly of Figure 1b;
- Figure 8a shows an isometric view of the container assembly of Figure 1a with the front compartment in an open condition;
- Figure 8b shows an isometric view of the container assembly of Figure 1a with the rear compartment in an open condition;
- 20 Figure 9a shows a perspective view of the receptacle of Figure 8c;
- Figure 9b shows an opposite perspective view to that of Figure 9a of the receptacle of Figure 8c;
- Figure 9c, shows a top view of the receptacle Figure 9a;
- Figure 9d, shows a bottom view of the receptacle Figure 9a;
- 25 Figure 9e, shows a side view of the receptacle Figure 9a;
- Figure 9f, shows an end view of the receptacle Figure 9a;
- Figure 10a, shows a perspective view of a partition of the receptacle of Figure 9a;
- Figure 11 shows a perspective view of the receptacle of Figure 9a in a partially folded condition;
- 30 Figure 12 shows a partial cross-sectional view of the receptacle and partition of the container assembly of Figure 1a taken along the line '12 – 12' of Figure 1a;
- Figure 13a shows a perspective view of an alternate receptacle to the receptacle of Figure 8c;
- Figure 13b shows an opposite perspective view to that of Figure 13a of the receptacle of Figure 13a;
- 35 Figure 13c, shows a top view of the receptacle Figure 13a;

- Figure 13d, shows a bottom view of the receptacle Figure 13a;
Figure 13e, shows a side view of the receptacle Figure 13a;
Figure 13f, shows an end view of the receptacle Figure 13a;
- 5 Figure 14a, shows a top view of the receptacle and partition of Figure 13a, showing
 the partition positioned within the receptacle;
- Figure 14b, shows a top view of the receptacle and partition of Figure 14a, showing
 the partition in an alternative position;
- 10 Figure 14c, shows a top view of the receptacle and partition of Figure 14a, showing
 the partition in an alternative position;
- Figure 14d, shows a top view of the receptacle and partition of Figure 14a, showing
 the partition in an alternative position;
- 15 Figure 14e, shows a top view of the receptacle and partition of Figure 14a, showing
 the partition in an alternative position; and
- Figure 14f, shows a top view of the receptacle and partition of Figure 14a, showing
 the partition in an alternative position.

DETAILED DESCRIPTION OF THE INVENTION

20 The description that follows, and the embodiments described therein, are provided by
way of illustration of an example, or examples of particular embodiments of the principles of
the present invention. These examples are provided for the purposes of explanation, and not
of limitation, of those principles and of the invention. In the description, like parts are
marked throughout the specification and the drawings with the same respective reference
numerals. The drawings are not necessarily to scale and in some instances proportions may
25 have been exaggerated in order more clearly to depict certain features of the invention.

30 In the description and drawings herein, reference may be made to a cartesian co-
ordinate system in which the vertical direction, or z-axis, extends in an up and down
orientation from bottom to top. The x-axis extends in the long dimension of the container
assembly, when fully expanded, running in the front-to-back direction. The y-axis extends
cross-wise horizontally relative to the x-axis, running in the side-to-side direction. Unless
noted otherwise, the terms "inside" and "outside", "inwardly" and "outwardly", refer to
location or orientation relative to the enclosed spaces of the first and second portions of the
container assembly, as may be.

35 Referring to Figures 1a – 8b, a container assembly is indicated generally as 20.
Container assembly 20 has a first, or main portion 22, and a second, or auxiliary portion 24.

5 Main portion 22 has a soft-sided, insulated wall structure 26, and a reinforcement member, or stiff wall structure, in the nature of a relatively rigid, resilient, molded plastic tub, indicated as receptacle 28, mounted within soft-sided insulated wall structure 26. Receptacle 28 is watertight, and is removable from within wall structure 26, to facilitate washing thereof, and of container assembly 20 more generally. Container portion 22 is intended to be maintained in the shape shown in the Figures, and is not intended to be collapsible.

10 The second, or auxiliary portion 24 of container assembly 20 is a soft-sided, collapsible container portion having a folded waterproof liner 30 mounted therewithin, as is more fully described below. Auxiliary container portion 24 is collapsible, being movable between a neatly folded and secured storage, or collapsed position, as shown in Figures 1a, and 1c, and a fully expanded, or deployed, position as shown in Figures 1b and 1d.

15 The first and second portions 22 and 24 of soft-sided, insulated container assembly 20 are mounted together in a back-to-back manner, and have a shared insulated common wall 36. Inasmuch as both portions 22 and 24 are insulated not only from the external ambient conditions by their respective insulated external peripheral wall structures, but also from each other by their insulated mating interface along the common insulated wall 36 of the enclosed spaces of their respective internal insulated chambers. Portions 22 and 24 are of matching 20 profile, and are mated about their peripheries, typically by stitching.

25 In addition to insulated container portions 22 and 24, assembly 20 also includes an externally mounted auxiliary enclosure structure, in the nature of an accessories pouch 32. In the embodiment illustrated, pouch 32 is mounted to the front wall of first portion 22 of insulated container assembly 20.

First Portion 22

30 First insulated container portion 22 has an outer casing 42, namely soft sided insulated wall structure 26; an insert, namely receptacle 28, and a divider or partition 46 removably mountable in receptacle 28. The outer casing 42 defines an enclosed space, or compartment 48, for receiving receptacle 28, and receptacle 28 has a chamber 50 which may be divided by placement of partition 46 therein. Partition 46 may be used to separate items placed within chamber 50. Items may also be retained by partition 46, as described in detail below. A closure member such as lid 52, attached to outer casing 42, may be used to enclose receptacle 28 within compartment 48. Figure 1a shows container 20 with lid 52 in a closed 35

position being secured by a fastener in the nature of a zipper 56. An optional carrying means such as strap 54 may be attached to outer casing 42 to facilitate transport of container 20.

Outer Casing 42

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Outer casing 42 is preferably made of an insulative material for thermally insulating receptacle 28. The insulative material inhibits heat transfer between chamber 50 and the surroundings of container assembly 20. This helps to maintain a preferred temperature of items such as food products stored within receptacle 28. For example, if items such as 10 bottled soft drinks or wine 57 (see Figure 12), which are stored within chamber 50, have a lower temperature than the container assembly's surroundings, then the insulative material may reduce the rate of heat transfer to the bottled soft drink 57, keeping the soft drink or wine, or other liquid at a low temperature for a longer period than if it were not placed within 15 container assembly 50. When lid 52 is in a closed position, heat transfer may be inhibited to a greater extent.

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The insulative material may additionally be soft and yielding so that the container will tend not to damage, or be damaged by, objects it comes into contact with. If a suitable plastic or other material as is known in the art is used, then outer casing 42 may also be readily cleaned to remove dirt and other debris acquired through use.

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Outer casing 42 preferably has a bottom panel 60, and wall panels including: a front panel 62, a rear panel 64 namely common insulated wall 36, and a pair of left and right hand side panels 66 and 68. In the description of the embodiments of the claimed invention, the choice of front and rear, left and right, orientations is arbitrary. Each panel 62, 64, 66 and 68 is preferably located at substantially right angles to two adjacent wall panels. For example, panel 64 is located adjacent panel 66 at one end, and adjacent panel 68 at an opposite end. The bottom panel may be attached to all four panels 62, 64, 66 and 68, along edges thereof. The combination of panels 62, 64, 66 and 68, and the bottom, define compartment 48. The bottom and panels 62, 64, 66 and 68, each are preferably rectangular, with respective opposite panels 62 and 64, and 66 and 68, being congruent to one another. In this preferred configuration, compartment 48 has a generally cube-like or rectangular parallelepiped shape. Panels 62, 64, 66 and 68, and bottom may be fastened to one another by sewing, gluing or some other suitable fastening means. Alternatively, two or more panels (including the bottom panel) may be formed from a single piece of material having one or more folds therein to define the two or more panels. Lid 52 and an adjacent wall may also be formed

from a single piece of material. For example, rear panel 64 and lid 52 may be formed from a single piece of material having a fold therein to define rear panel 64 and lid 52. It may be noted that lid 52 may thusly be connected to the upper margin of rear panel 64 by a flexible fabric hinge.

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In the preferred embodiment, connected panels 62, 64, 66 and 68 each have a distal edge 72, 74, 76 and 78, respectively, which define container opening 80 through which receptacle 28 may be placed into compartment 48. Lid 52 may be attached to rear panel edge 74, and may have zipper teeth 58 attached about its perimeter for matingly engaging corresponding zipper teeth 60 which traverse panel edges 76, 72, and 78. Zipper 56 may be used to inhibit access to compartment 48 via container opening 80 by securing lid 52 to panels 62, 66 and 68. Securing lid 52 to panels 62, 66 and 68 may also inhibit heat transfer to and from chamber 50.

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Lid 52 has an extent substantially equal to that of the casing bottom. This need not be the case. Lid 52 could cover a small opening set in a larger top panel, or could cover an opening of half, or some other portion of the top panel. The opening need not extend fully along panel free edges 76, 72, and 78, but could extend along part of one or two sides as may be found suitable for a particular use.

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Outer casing 42 may have shoulder strap 54 attached thereto, for example, at side panels 66 and 68. Outer casing 42 may also have an auxiliary receptacle or pouch 32. Pouch 32 may have a see-through mesh pocket 34, such as may be convenient for viewing the contents thereof, which may include knives, forks, spoons or other objects.

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Receptacle 28

Two embodiments of receptacle 28 are shown, the first embodiment being shown in Figures 9a - 9f, and the second embodiment being shown in Figures 11a to 11f, and in Figures 12a - 12f. These two embodiments are fundamentally similar, the latter embodiment differing from the former in that the former has generally planar side portions whereas the latter has, in its lower regions, arcuate side portions and arcuate corner portions molded to provided a more rounded enclosure for such things as round cylindrical bottles or drink cans. The flat sided version of Figures 9a - 9f is preferred. Except where otherwise noted, these two version are given the same item numbers for their various corresponding elements.

Receptacle 28 is preferably configured to be the same general size and shape as compartment 48 so that receptacle 28 may be placed within compartment 48 and lid 52 may be closed using zipper 56 to contain receptacle 28. While receptacle 28 preferably conforms to compartment 48, it may have some other configuration that fits within compartment 48.

5 For example, receptacle 28 may have fewer than four, or greater than four, walls. In an alternative embodiment, receptacle 28 may be configured to have one continuous wall defining a round cylindrical segment or other generally rounded shape.

In the preferred embodiment, receptacle 28 has a bottom 90, a receptacle front wall 92, a rear wall 94, and a pair of left and right hand side walls 96 and 98. Each wall 92, 94, 96 and 98 is preferably generally located at a generally square corner to two adjacent walls. For example, wall 94 is located adjacent wall 96 at one end of wall 94, and adjacent wall 98 at an opposite end of wall 94. Bottom 90 may be attached to all four walls 92, 94, 96 and 98, along edges thereof. Walls 92, 94, 96 and 98, and bottom 90, co-operate to define an interior surface 100 of receptacle 28, which bounds chamber 50. Bottom 90 and walls 92, 94, 96 and 98, each are preferably generally rectangular in shape with opposite walls 92 and 94, and 96 and 98, being substantially congruent to one another. In this configuration, chamber 50 has a generally cube-like or rectangular parallelepiped shape having contours, as described in detail below. It should be noted that receptacle 28 may be configured without a bottom 90.

20 Walls 92, 94, 96 and 98 extend from receptacle bottom 90, and each wall terminates at free edges 102, 104, 106 and 108, respectively. Free edges 102, 104, 106 and 108 together define a receptacle rim, or edge 110 of generally rectangular plan form, with radiused corners. Receptacle edge 110 is preferably generally equidistant from bottom 90 (i.e., lies in a parallel, upwardly spaced plane) and defines a receptacle mouth or opening 112 by which to obtain access to chamber 50. While bottom 90 is generally planar, it may alternatively have portions defining indents (not shown) that conform to the profiles of one or more items to be contained within receptacle 28. Such indents may inhibit movement of these items when placed within the indents corresponding to their respective profiles.

30 Receptacle 28 is preferably rigid to provide a degree of structural reinforcement to casing 42 to give protection to items stored therein from external forces caused, for example, by bumping, jostling, or knocking of container assembly 20 when it is transported or otherwise used. At the same time, receptacle 28 may tend to be sufficiently lightweight that it may tend not make container 20 unduly heavy to carry when container assembly 20 is filled with items such as beverage bottles 57 or sandwiches. A plastic, for example, may be

used to form receptacle 28. A relatively tough plastic is preferred because it may tend to resist breakage, it can contain melting ice and spilled liquids, and it may be readily cleaned.

The amount of material required to construct receptacle 28 may be reduced by including one or more strengtheners, such as ribs 114, that extend in a generally upward direction from bottom 90 to increase the rigidity of receptacle 28. Ribs 114 may be attached to, or preferably be formed integrally with, receptacle 28. Each wall 92, 94, 96 and 98 preferably has at least one rib 114, which at least partially traverses an external surface thereof. As shown, for example, in Figures 9a and 9b, ribs 114 are generally parallel to one another, and originate adjacent bottom 90, extending from bottom 90 and ending at a rib terminus 122. While rib terminus 122 may be located at or adjacent receptacle edge 110, it is preferably located at some mid-point between bottom 90 and receptacle edge 110. In this intermediate position, rib terminus 122 may also form a portion of an interior shoulder 118 which may be used to support partition 46, as described in further detail below.

The interior surface 100 of receptacle 28 has at least one guide 116 for receiving or engaging a portion of partition 46, for example, an edge, such as edge 115 (as shown in Figure 11; and described in further detail below). Guide 116 may be added to, or, preferably be made integrally with receptacle 28. In the preferred embodiment, guide 116 is integrally formed with a wall, such as wall 92 or 94, of receptacle 28, and is oriented so that an edge, for example edge 115, of partition 46 may be placed therein. When partition 46 is held by guide 116, it is preferably oriented to divide chamber 50. Most preferably, the internally facing surfaces of the integrally molded wall feature of rib 114 also function as guide 116.

Guide 116 may be in the nature of a rebate, groove or fluting, and may be substantially linear to permit partition 46 to be slidably received therein. Guide 116 may be located to correspond to the location of a rib 114 so that guide 116 is defined within rib 114. Accordingly, guide 116 originates adjacent bottom 90, and extends along interior surface 100, from bottom 90, and ends at a guide terminus 124, which corresponds to rib terminus 122. Guide terminus 124 may be located at or adjacent receptacle edge 110, but is preferably located at some mid-point between bottom 90 and receptacle edge 110 adjacent interior shoulder 118. A longitudinal axis of guide 116 may be substantially perpendicular to a plane of bottom 90.

Guide 116 need not be the same length as rib 114; it need only be of sufficient length to receive at least part of an edge (such as edge 115) of partition 46 to inhibit movement

thereof in a direction transverse to a longitudinal axis of guide 116. Receptacle 28 may alternatively be formed with guide 116 (and, if desired, rib 114) oriented at an angle other than at 90 degrees relative to bottom 90. This would in turn alter the orientation of a received partition 46. In the embodiment illustrated, rib 114 both strengthens receptacle 28 and defines guide 116. This arrangement may also facilitate the manufacture of receptacle 28 if, for example, it is made by injection moulding. In the preferred embodiment, guide 116 is substantially straight for receiving a substantially straight edge 115 of partition 46.

Receptacle 28 may be provided with additional guides 116 for receiving edge 115 of partition 46, for example. Two guides 116 may co-operate and each receive an edge of partition 46, such as edges 115 and 117, to inhibit movement of partition 46. The provision of multiple guides 116 within receptacle 28 permits chamber 50 of receptacle 28 to be subdivided in different ways depending on which guides 116 are used for receiving partition 46 (as further explained below).

Guides 116 are configured to receive an edge of partition 46, as noted above. Accordingly, each guide 116 has substantially the same shape as the edge (for example, edge 115) of partition 46 that is received by guide 116. Each guide 116 is preferably bounded by generally parallel edges. In the embodiment of Figures 13a – 13e there are concave rounded or arcuate intermediate portions 130 between the guides 116. The rounded intermediate portion 130 may facilitate the manufacture, for example by moulding, of receptacle 28, may increase the stiffness of the structure more generally, and may serve to provide a nesting curvature for a round cylindrical container, such as a bottle or can that may be placed in a receptacle 46.

Receptacle 28 may also have a shoulder 118 for supporting partition 46, or a portion of partition 46, in a generally horizontal orientation (as in Figure 14c), such as to function as a shelf or partial shelf. Shoulder 118 extends along interior surface 100, and is preferably located between receptacle edge 110 and bottom 90. In the preferred embodiment, shoulder 118 extends along a perimeter of interior surface 100 at a height intermediate to the bottom and the upper rim, preferably generally about halfway between the two. Shoulder 118 projects from interior surface 100, and may present a surface 120, which is generally parallel to bottom 90. Subject to the existence of intermediate arcuate portions 130, surface 120 may have a generally uniform width, and may have gaps therein where guides 116 intersect shoulder 118. Each gap 126 corresponds to a guide terminus 124.

In the preferred embodiment, receptacle 28 has an array of four generally parallel guides 116, two guides located in each of opposed walls 92 and 94, respectively, to divide the chamber into roughly equal thirds. In the alternate embodiment of Figures 13a – 13f and 14a – 14f, a further two guides 116 are located in the end walls to permit the internal chamber to be divided in half longitudinally as well as the 1/3 – 2/3 portions possible transversely. Wall portions between adjacent guides 116 may be configured to abut items typically stored within receptacle 28, such as cans or beverage bottles 57.

If receptacle 28 is configured to be substantially the same size as compartment 48, then spaces or gaps 145 between receptacle 28 and one or more of walls 62, 64, 66 and 68, may be reduced. A smaller gap 145 may reduce the likelihood that spilled liquids, food, or such other matter may find its way between the inwardly facing wall surfaces of soft sided wall structure 26 and the outwardly facing surfaces of receptacle 28, which may reduce the frequency with which compartment 48 requires cleaning. Gap 145 may be tend reduced by configuring receptacle edge 110 to have a reinforcement or stiffener in the nature of a flange or lip 149. Lip 149 may extend peripherally along receptacle edge 110, and is preferably located adjacent one or more of outer casing free edges 72, 74, 76 and 78 when receptacle 28 is positioned within outer casing 42. This proximity of lip 149 to free edges 72, 74, 76 and 78, attempts to reduce the size of a gap 145 that may form between the flexible outer casing 42 and receptacle 28. By reducing the size of gap 145, matter such as a spilled liquid may be encouraged to be either caught within receptacle 28 or repelled by an exterior surface 147 of outer casing 42. Lip 149 may have a generally L-shaped cross-section forming a step in receptacle edge 110, and may project away from walls 92, 94, 96, 98, and chamber 50. Lip 149 may alternatively or additionally be arcuate, rounded or have some other shape that projects from walls 92, 94, 96, 98 to discourage the passage of matter between outer casing 42 and receptacle 28.

Partition 46

Two embodiments of Partition 46 are shown. The first embodiment, shown in Figures 8a, 8c, and 10a to 10d is a single fold, two portion partition, with unequal portions. That is, it has a hinge that is not located in the middle of the panel, but rather closer to one side in a roughly 1/3 – 2/3 arrangement. The second embodiment is shown in Figures 11, and 14a – 14f. The partition of the second embodiment is much the same as the first, except insofar as it has two hinges and three partition portions, arranged in a roughly equal 1/3 – 1/3 – 1/3 arrangement. Many other arrangements are possible, whether 1/4 - 3/4 , or 1/2 - 1/2, or 2/5 –

3/5 split in the case of a single hinge, two portion partition, or $\frac{1}{4}$ - $\frac{1}{4}$ - $\frac{1}{2}$, or $3/10$ - $3/10$ - $4/10$ or some other arrangement of widths for a two hinge, three partition arrangement. It should also be noted that a four portion partition, of appropriate divisions could also be used. In any case, to the extent possible, the same item numbers have been used for the corresponding features of the two embodiments of partition 46.

Referring to Figures 14a to 14f, partition 46 may be positioned or located within receptacle 28 to sub-divide chamber 50 in different ways, as shown, for example in Figures 14a to 14f. By sub-dividing chamber 50, the movement of items stored within chamber 50 may be inhibited, which may limit the extent to which they come into damaging contact with one another, and with walls 92, 94, 96, 98 and bottom 90, when container 20 is transported or moved. Partition 46 may be made of a substantially rigid material so that it may tend to resist deformation when contacted by items stored in receptacle 28. As discussed in further detail below, one or more guides 116, and shoulder 118, or both, may co-operate with partition 46 to inhibit its movement within receptacle 28 when it is located to sub-divide chamber 50.

Positioning of partition 46 may be facilitated by providing partition 46 with a hinged connection 150 therein. Hinged connection 150 separates partition 46 into at least a first partition portion 146 and a second partition portion 148. First and second portions 146 and 148 are joined to one another along hinged connection 150, and are movable relative to one another about hinge 150.

A linear portion 152 of partition 46, which traverses partition 46 between first and second portions 146 and 148, preferably defines hinge 150. To permit bending of partition 46 at linear portion 152, linear portion 152 preferably has a thickness which is less than a thickness of at least one of the first and second portions 146 and 148. If partition 46 is moulded from a plastic then hinge 150 may be integrally formed therein.

Hinge 150 may alternatively be formed using a flexible joining member such as an adhesive tape attached to both first and second partition portions 146 and 148. Alternatively, hinge 150 may be formed by laterally inserting a pivot member such as a pin through one or more projections extending from each of first and second partition portions 146 and 148, respectively. First and second partition portions 146 and 148 may then rotate about the pin connecting them.

In the preferred embodiment, first and second partition portions 146 and 148 may be generally planar, and may be connected or mounted along adjacent edges 151 and 153 thereof. In this configuration, the angular displacement of first and second portions 146 and 148 relative to one another about hinge 150 may be varied. For example, partition 46 may be configured to be generally planar when first and second portions 146 and 148 are co-planar (see Figure 14b), and may be configured to be generally L-shaped when first and second portions 146 and 148 are generally at right angles relative to each other (see Figure 14c).

In the embodiment of Figures 13a – 13f and 14a – 14f, partition 46 has a third partition portion 154 attached to second partition portion 148. Third portion 154 may be attached using second hinge 156, which may be configured in a manner similar to hinge 150, as described above. Hinges 150 and 156 are preferably parallel to one another, permitting partition 46 to be configured as: generally planar and horizontal when portions 146, 148 and 152 are co-planar (see Figure 14a); generally L-shaped when one of portions 146 or 152 is rotated about its associated hinge (150 or 156) to be generally perpendicular to the remaining two portions (see Figures 14b-14f); and generally U-shaped when portions 146 and 152 are rotated towards each other about hinges 150 and 156, respectively, until they are generally perpendicular to intermediate portion 148.

Referring to Figure 14a, when in a generally horizontal planar orientation, partition 46 is preferably congruent to a shape defined by an intersection of support surface 120 and receptacle interior surface 100. This permits partition 46 to lie within receptacle 28 and to be supported about its margin by shoulder 118. In this configuration, partition 46 divides compartment 50 into a first sub-chamber 158 between itself and bottom 90, and a second sub-chamber 160 adjacent opening 112 (best seen in Figure 14a). Items stored within each sub-chamber 158 and 160 may be kept separate by first placing one or more items into sub-chamber 158, placing partition 46 onto shoulder 118, and then placing one or more additional items onto partition 46 for storage within sub-chamber 160. Items in sub-chamber 158 may be accessed by pivoting, or lifting, one of panels 146 and 152 away from sub-chamber 158. Similarly, access to sub-chamber 158 may be gained by pivoting or lifting two adjacent panels, such as panels 146 and 148 away from sub-chamber 158. To move panels of partition 46, partition 46 may be grasped through one or more holes therein.

Partition 46 may also be configured to partially sub-divide chamber 50 when partition 46 has a general L-shape. In this configuration, edges 161 and 163 of one portion, for example portion 154, may be placed or slidably engaged with a pair of transversely opposed

guides 116). The remaining two portions 146 and 148, lying perpendicular to portion 154, may be supported by shoulder 118. Items stored between partition 46 and bottom 90 may be separated from items placed onto portions 146 and 148. Items may additionally be placed on a portion 162 of bottom 90 that is exposed even when partition 46 is in place. If the distance
5 between partition portions 146 and 148 and bottom 90 is substantially the same as the width of portion 154, then items placed on bottom portion 162 may be separated by portion 154 from items placed on the portion of bottom 90 that is enclosed by partition 46. In the preferred embodiment, portions 146, 148 and 154 all have substantially the same width, and shoulder 118 is displaced from bottom 90 by a distance generally equal to two times the width of one of these portions. Accordingly, in the configuration shown in Figure 12, a distal
10 end 164 of portion 154, is displaced from bottom 90 by a distance generally equal to the width of portion 154. As a result, movement along bottom 90 of items which are larger than this displacement, may be inhibited by portion 154. It should be noted that portions 146, 148 and 154 may have substantially different widths, and shoulder 118 may be displaced from bottom 90 by any distance that is suitable for storage of a particular item. For example, a greater distance may be used when constructing a receptacle 28 for containing wine bottles
15 57, than when constructing a receptacle 28 for containing beer bottles (not shown).

Referring to Figure 14c, edges 161 and 163 of portion 154, and edges 165 and 167 of portion 148, may be respectively inserted into opposed guides, 116. Once so inserted, portion 146 may be rotated about hinge 150 to be supported by shoulder 118, and to provide an alternate division of chamber 50. In this configuration, distal end 164 of portion 154 is located adjacent bottom 90. Other examples of possible configurations for partition 46 are shown in Figures 14a to 14f. These different configurations of partition 46 may permit items of various dimensions to be stored within receptacle 28. If a different configuration of partition 46 is required, partition 46 may be manually removed, reconfigured and repositioned, as needed.

Partition 46 may preferably have a peripheral reinforcement or stiffener in the nature of a rim or flange 172. Flange 172 preferably extends about at least a portion of the periphery of partition 46. Flange 172 may project generally perpendicularly from partition 46, either in one direction, or in two directions, as shown in Figure 14. Flange 172 is preferably relieved adjacent all hinges. Partition 46 may additionally have an aperture, such as may be in the nature of a circular hole 166 passing through at least one of portions 146, 148 and 154. Hole 30 35 166 may permit grasping of partition 46 so that it may be re-located to divide chamber 50.

Referring to Figures 14 and 16, hole 166 may additionally be configured to receive an item such as a vessel, for example bottle 57, which is placed within chamber 50. Bottle 57 has a neck and a body. Hole 166 is preferably at least the same size as a cross-sectional dimension of the neck, and is smaller than a cross-sectional dimension of the body.

5 Referring to Figure 16, receptacle shoulder 118 may be located to permit the vessel neck to intersect hole 166 when vessel 57 is placed onto receptacle bottom 90, and the portion (for example portion 146) having hole 166 is supported by support surface 120 of shoulder 118. Because hole 166 is preferably at least the same size as bottle cross-sectional dimension 174, lateral movement of the bottle neck within hole may be inhibited, for example, when

10 container 20 is carried or bumped. By inhibiting movement of the bottle neck, and by connection bottle 57, bottle 57 may be discouraged from toppling and spilling its contents, or coming into undesired contact with other items stored within receptacle 28. Hole 166 may be located in a partition portion, such as portion 146, to position the bottle body adjacent one of the wall portions, when bottle 57 is supported by bottom 90, portion 146 is supported by

15 support surface 120, and the bottle neck intersects hole 166. In this configuration, wall portion 144, which preferably conforms to a profile of bottle body, may inhibit movement of bottle 57 towards wall portion 144.

While the preferred embodiment of the invention has two holes 166 and 178, located

20 in partition portion 146, one or more holes may be placed in any portion, and may even straddle portions (not shown). Hole size may also be varied depending on the particular size of item that will be supported or retained within hole 166.

Second Portion 24

As noted above, second container portion 24 has two major elements, those being a collapsible soft-sided insulated container wall structure 42, and removable, water impermeable liner 30, noted above, for placement inside second insulated container portion 24. An optional moveable bulkhead, or baffle, in the nature of a partition wall 200 seats

25 within liner 30 for dividing the interior space into two sub-compartments 202, 204.

The insulated enclosure structure of second insulated container portion 24 has a bottom insulated panel 206, a front insulated panel 208, a rear insulated panel 210, and a pair of left and right hand insulated side panels 212 and 214. In this preferred embodiment the choice of front and rear, left and right, orientations is arbitrary. Each of front panel 208, the rear panel, namely common wall 36, and left and right hand side panels 212 and 214 is joined

at sewn seams to bottom 206 at its edges. Similarly, front panel 208 and side panels 212 and 214 have top edges distant from their base edges. Rear panel 210 is joined by a folded hinge 224 at its top edge to a top panel in the nature of a lid 226. Lid 226 has a closure member in the nature of a zipper 228 extending in a U-shape around the three free edge portions of its periphery to mate with the other portions of zipper 228 positioned about the three top edges 220, 221 and 222 of panels 208, 212 and 214. Lid 226 is moveable between a closed position, in which zipper 228 may be zipped closed, and an open position in which lid 226 is folded back to permit entry and exit of objects to and from an internal cavity 230 defined between bottom 206 and panels 208, 210, 212 and 214.

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In the preferred embodiment, lid 226 has an extent substantially equal to that of bottom panel 206. This need not be the case. Lid 206 could be a small opening set in a larger top panel, or could be an opening of half, or some other portion of the panel. The opening need not extend fully along three sides of lid 206, but could extend along part of one 15 or two sides as may be found suitable in a particular use.

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The top edges 208, 212, and 214 form the rim 234 of cavity 230. On the inside of rim 234 is a liner securing means, or liner attachment mounting, in the nature of a zipper 236, which, in the embodiment illustrated, includes portions mounted respectively to panels 208, 20 212, and 214 near their upper margins, and a hook and eye fabric fastener strip mounted to panel 210. Although this arrangement is preferred, in an alternative embodiment all of the strip portions (or some other combination of them) could be hook-and-eye fabric fasteners. Other types of mounting could be used, in addition to zippers, such as interlocking seal strips, snaps, clips, grommets or other means.

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Container 24, with liner 30 installed, can be folded to a collapsed position, as shown in Figures 1a, 3a and 4a. In this collapsed, or storage position, side panels 212 and 214 fold inward, and bottom 206 folds upward. This permits front panel 208 to move toward rear panel 310. Lid 226 is then drawn forward and downward in front of front panel 208. Lid 226 has, on its inner face, spaced inwardly from zipper 228, a retainer in the nature of another hook and eye fastener strip 242 that engages a mating hook and eye fastener strip 244 located on a lower portion of the front face of auxiliary pouch 232. In addition, left and right hand side retainers 246 and 248 mounted to the left and right hand edges of auxiliary pouch 232 of front panel 48 are drawn around to fasten to fastening strips 250 and 252 located on the outer, rearward face of rear panel 210. (When container 24 is in its open position, strips

246 and 248 engage storage strips 254 and 256 located on side panels 212 and 214 respectively).

A cross section of front panel 208 or side panels 212, 214 is similar to the cross section of panel 62, 66 or 68, shown in Figure 12, except, of course, with liner 30 in place of receptacle 28. This kind of section is typical not only of front panel 208 but also, generally, of rear panel 210, side panels 212 and 214, bottom panel 206 and lid 226. The outer facing layer of front panel 208 is a canvas covering layer for resisting abrasion. It overlays a closed cell foam insulation layer. The inner face of the insulation layer is covered by flexible plasticised metallic foil sheeting that is shiny and reflective. The material is sold under the name Therma-Flect (T.M.). Liner 30 lies inside the reflective sheeting 272, and is pressed against it by the objects it contains.

Liner 30

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Liner 30, is shown in Figure 8b. It is made from a membrane, or web, in the nature of a sheet 300 of flexible, transparent plastic stock, in particular, static cling vinyl. The shiny, reflective surface of sheeting 272 is visible through liner 30 in use. Liner 30 has a base 302 and four sides, front, rear, left hand and right hand respectively, 304, 306, 308, and 310 extending upwardly from base 302. Each of sides 304, 306, 308 and 310 is joined to base 302 at a base edge, as indicated, and each has an opposite, distal edge distant from its respective base edge. The sides meet at respective upstanding corners. A chamber 316 is defined between base 302 and sides 304, 306, 308 and 310. Chamber 316 has an opening 318 defined by the peripheral lip 320 formed collectively by the distal edges of sides 304, 306, 308 and 310. This mounting may be by heat welding or by use of a bonding agent or adhesive. In the preferred embodiment lip 320 is folded over to form a hem, and fasteners are of the nature of a continuous zipper around three sides of lip 320, and a fastener on the fourth side in the nature of a fabric hook-and-eye strip are sewn in place with stitching that is at a height relative to base 302 that is expected to be well above the liquid level in liner 30.

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Liner 30 is preferably a single integral sheet, folded up and, absent punctures of that sheet, is not intended to leak below the level of the sewn seam at lip 320. The body of base 302 and sides 304, 306, 308 and 310 is seamless, being free of heat welds or other joints. In general use the liquid level in chamber 316 is not expected to be greater than one half of the height of the sides, and still less commonly to be more than three quarters of the height. There are no seams below either of these levels, heat welded or otherwise.

Liner 30 is also thin enough that it can be folded inside container 24 when container 24 is compressed to its collapsed position as illustrated in Figures 1a, 3a, and 4a. Liner 30 need not be transparent, but could be translucent or opaque. A transparent liner is preferred since it permits the reflection of sheeting 272 to be seen.

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Auxiliary Wall Structure 32

Auxiliary wall structure 32 includes an outwardly and upwardly extending flap 324, a side wall 326, and a tracked closure member in the nature of a zipper 328 operable to control access to the interior of the space 330 defined between flap 324 and side panel wall 326. Flap 324 has an arcuate, padded lower portion 332 having a first margin attached to front wall 62, near the juncture of front wall 62 with bottom panel 60. Padded lower portion 332 extends upwardly and outwardly from that edge to an arcuate lateral seam 338. A padded, generally planar (when closed) upper portion 340 extends upward from the upper margin of lower portion 332. Upper portion 340 has an external mesh pocket 342 mounted thereto. Side wall 326 is formed in a U-shape, having depending lower portions that are mated to lower portion 332, upwardly extending side portions 344, 346, and a curved central portion 348 extending therebetween, the inner margins of items 344, 346 and 348 being sewn to the front face of front panel 62 of first insulated container portion 22, and the outer margins having one half of a tracked closure member, in the nature of zipper 328 mounted thereto, for co-operation with the other half of zipper 328 that is mounted to the upper margin of flap 324, to whose shape margins 344, 346, 348 conform. Upper curved central portion has an eyelet 350, of two overlapping flaps to admit an electronic jack, or plug 352, of a head set such as may be plugged into a an entertainment unit 356 such as may be a music playing device, which may be a CD player, a cassette player, a portable radio, or, as in the preferred embodiment, an entertainment unit combining all three capabilities. An internal pouch 358 having an elasticised upper lip 360 is provided for receiving entertainment unit 356, and such cassettes or compact discs as may be desired by the user. Alternatively, item 32 has an internal space suitable for accommodating knives, forks, spoons, napkins, and other items such as may be desired for a picnic. Internal gussets 364 extend between the lateral margins of pouch 324 and the opposed margins of front flap 324 acting to limit the extent to which flap 324 can be opened, and thereby discouraging it from opening to such an extent that objects container therein may too easily fall out. The termination points of zipper 328 extend to a lower height than the upper margins of gussets 364.

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A generally triangular lifting lug 366 is mounted to front panel 62 adjacent to eyelet 350. While item 32 is not thermally insulated, flap 324 is fabricated with an internal layer of rubberized

padding that is intended to provide a measure of protection against rough handling to such electronic equipment or other objects as may be carried therein.

5 Although the embodiments illustrated and described above are preferred, the principles of the present invention are not limited to this specific example which is given by way of illustration. It is possible to make other embodiments that employ the principles of the invention and that fall within its spirit and scope as defined by the following claims.